Atlantic Provinces Transportation Commission

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AN ANALYSIS OF THE POTENTIAL COST SAVINGS WITH A FIXED CROSSING TO PRINCE EDWARD ISLAND

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Sponsored by the governments of Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland. Affiliated with the Atlantic Provinces Chamber of Commerce. Offices: Suite 210, Commerce House, 236 St. George Street, Moncton, New Brunswick.

At the September 23, 1986, Board of Directors' meeting of the Atlantic Provinces Transportation Commission (APTC), staff was authorized to prepare an evaluation of the cost savings to shippers and receivers by a fixed crossing between New Brunswick and Prince Edward Island. The cost saving analysis would be based on the saving in time to private and commercial motor carriers resulting from the fixed crossing as versus the present ferry system.

A fixed crossing, as proposed by Northumberland Bridge Builders, would result in a twelve minute crossing between New Brunswick and Prince Edward Island. The current Marine Atlantic ferry crossing is 45 to 60 minutes from terminal to terminal and the crossing by Northumberland Ferries is one hour and 15 minutes. The actual time involved by using the ferry system varies depending on the time of year and traffic conditions.

Discussions with the Atlantic Provinces Trucking Association and a major common carrier operating between New Brunswick and Prince Edward Island indicates that the additional travel time for queuing and waiting between the mainland and Island ranges from a minimum of one hour to a maximum of 6 hours.

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An analysis conducted in 1982 by the APTC involving the movement of potates indicated that the average time for the ferry crossing between Cape Tormentine and Borden was 2 hours per crossing. This was verified by similar analyses made by the Department of Transportation for the Province of Prince Edward Island. Subtracting the 12 minute drive via the fixed crossing the estimated time saving is one hour and 48 minutes or 1.8 hours.

In order to determine the cost per hour of a tractor-trailer plus driver, the APTC did some sampling based on previous private trucking studies and determined that a tractor-trailer unit cost ranges from $20 to $23 per hour. The APTA and the major motor carrier contacted estimated the cost as ranging from $30 to $35 per hour. A straight truck was estimated as costing $20 per hour.

Ferry crossing statistics for the calendar year 1986 are as follows for commercial traffic:

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Marine Atlantic

(12 Month Period Ending November 30, 1986)

Straight Trucks	24,882 Units
Tractor & Trailers	90,969 Units
Rail Tonnage	209,105 Tons*

* 12 month period ending October 31, 1986.

Northumberland Ferries Ltd.

(April 29 to December 10, 1986)

Commercial Vehicles	19,672 Units

Some assumptions have been made in order to determine the cost saving from a fixed crossing:

1. Rail tonnage would move by tractor trailer at 25 tons per unit. Some rail traffic may not be converted to highway tractor-trailer and may move via alternative transportation modes such as direct vessel movements, however for the purposes of this analysis a strict conversion to highway has been assumed.

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2. Northumberland Ferry commercial traffic would be diverted to the fixed crossing. Northumberland Ferry traffic moving via the fixed crossing would require additional highway travel costs to Cape Tormentine, however it is assumed that this will be offset by the shorter transit time via the crossing.

3. Commercial vehicle traffic via Northumberland Ferries is made up of straight trucks and tractor-trailers in the same proportions as Marine Atlantic traffic.

The following are the calculations of the cost savings:

Minimum Savings ($20/Hour Straight Trucks and Tractor-Trailers)

1. Straight Trucks
   24,882 units plus 4,131 (21% of 19,672) = 29,013 units
   @ $20 per hour X 1.8 hours
   = $1,044,468

2. Tractor-Trailers
   90,969 units plus 15,541 (79% of 19,672) = 106,510 units
   @ $20 per hour X 1.8 hours
   = $3,834,360

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3. Rail Conversion to Tractor-Trailers
   209,105 tons divided by 25 tons = 8,364 units
   @ $20 per hour X 1.8 hours
   = $301,104

   Total Cost Savings (Total 1, 2 & 3) = $5,179,932

Minimum Savings ($20/Hour Straight
Trucks and $35/Hour Tractor-Trailers)

1. Straight Trucks
   24,882 units plus 4,131 (21% of 19,672) = 29,013 units
   @ $20 per hour X 1.8 hours
   = $1,044,468

2. Tractor-Trailers
   90,969 units plus 15,541 (79% of 19,672) = 106,510 units
   @ $35 per hour X 1.8 hours
   = $6,710,130

3. Rail Conversion to Truck
   209,105 tons divided by 25 tons = 8,364 units
   @ $35 per hour X 1.8 hours
   = $526,932

   Total Cost Savings (Total 1, 2 & 3) = $8,281,530

The above analysis appears to indicate that given a time savings of 1.8 hours, the cost saving to commercial traffic

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will range from $5.1 million to $8.2 million per year. It is possible that the time savings could average out to be greater than 1.8 hours considering such things as the varying schedules and summer tourist traffic.

An additional benefit would result from the greater utilization of equipment for those motor carriers serving Prince Edward Island and the mainland. As an example, at the present time a round trip between Moncton, NB, and Charlottetown, PE, requires an average of 8 hours via the ferry service. The round trip between Moncton, NB, and Saint John, NB, a similar distance, takes an average of 4 hours, or one-half the time required for the Moncton - Charlottetown run.

Dated in Moncton, NB
January 13, 1987